AGIQA-3K: An Open Database for AI-Generated Image Quality Assessment

Abstract

With the rapid advancements of the text-to-image generative model, AI-generated images (AGIs) have been widely applied to entertainment, education, social media, etc. However, considering the large quality variance among different AGIs, there is an urgent need for quality models that are consistent with human subjective ratings. To address this issue, we extensively consider various popular AGI models, generated AGI through different prompts and model parameters, and collected subjective scores at the perceptual quality and text-to-image alignment, thus building the most comprehensive AGI subjective quality database AGIQA-3K so far. Furthermore, we conduct a benchmark experiment on this database to evaluate the consistency between the current Image Quality Assessment (IQA) model and human perception, while proposing StairReward that significantly improves the assessment performance of subjective text-to-image alignment. We believe that the fine-grained subjective scores in AGIQA-3K will inspire subsequent AGI quality models to fit human subjective perception mechanisms at both perception and alignment levels and to optimize the generation result of future AGI models. The database is released on https://github.com/lcysyzxdxc/AGIQA-3k-Database.